

REMARKS

This is a full and timely response to the non-final Office Action of April 1, 2004.

Reexamination, reconsideration, and allowance of the application and all presently pending claims are respectfully requested.

Upon entry of this Fourth Response, claims 1-10, 12-17, 31-34, 39-42, 53-56, and 58-79 are pending in this application. Claims 1, 3-10, 12-17, 39-42, 53-56, and 58-61 are directly amended herein, and claims 11, 18-30, 35-38, 43-52, and 57 are canceled without prejudice or disclaimer. Further, claims 62-79 are newly added. It is believed that the foregoing amendments add no new matter to the present application.

Response to Rejections

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. See, e.g., *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Further, in order for a claim to be properly rejected under 35 U.S.C. §103, the combined teachings of the prior art references must suggest all features of the claimed invention to one of ordinary skill in the art. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

Claim 1

Claim 1 presently stands rejected under 35 U.S.C. §102 as allegedly anticipated by *Molnar* (PixelFlow: High Speed Rendering using Image Composition). Claim 1, as amended, reads as follows:

1. A graphical display system, comprising:
a first graphics pipeline configured to render two-dimensional (2D) graphical data received from a graphics application thereby defining a 2D graphical object, said first graphics pipeline further configured to define, within said 2D graphical object, a region for displaying three-dimensional (3D) graphical objects;
a second graphics pipeline configured to render 3D graphical data received from said graphics application;
a display device configured to display said 2D graphical object; and
a compositor configured to interface, with said display device, said 2D graphical data and said 3D graphical data respectively rendered by said first and second graphics pipelines such that said 3D graphical data rendered by said second graphics pipeline is displayed within said region. (Emphasis added).

Applicants respectfully assert that *Molnar* fails to disclose each feature of pending claim 1.

Thus, the 35 U.S.C. §102 rejection of claim 1 is improper.

In this regard, it appears that the *Molnar* system uses a plurality of “geometry processors” that each render a different portion of an image to be displayed. See Figure 1. However, there is nothing in *Molnar* to indicate that any one of the “geometry processors” defines a “region for displaying 3D graphical objects” within a 2D graphical object and that 3D graphical data rendered by another “geometry processor” is displayed within this region. Thus, *Molnar* fails to disclose at least the features of claim 1 highlighted hereinabove.

For at least the above reasons, Applicants respectfully assert that the 35 U.S.C. §102 of claim 1 should be withdrawn.

Claims 2-10, 12-14, 31, 32, 39-42, 52-56, and 58-69

Claims 2-6, 9, 10, 12-14, 31, 32, 39-42, 52, 54, 55, and 57-61 presently stand rejected in the Office Action under 35 U.S.C. §102 as allegedly anticipated by *Molnar*. Further, claims 9, 12, 13, 40-42, 56, 58, and 60 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *Molnar* in view of Applicant's admitted prior art, and claims 7, 8, and 53 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly unpatentable over *Molnar* in view of *DiNicola* (U.S. Patent No. 5,394,524). Also, claims 62-69 are newly added via the amendments set forth herein. Applicants submit that the pending dependent claims 2-10, 12-14, 31, 32, 39-42, 52-56, and 58-69 contain all features of their respective independent claim 1. Since claim 1 should be allowed, as argued hereinabove, pending dependent claims 2-10, 12-14, 31, 32, 39-42, 52-56, and 58-69 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 15

Claim 15 presently stands rejected under 35 U.S.C. §102 as allegedly anticipated by *Molnar*. Claim 15, as amended, reads as follows:

15. A graphical display system, comprising:
a first pipeline means for rendering graphical data received from a graphics application thereby defining a 2D graphical object, said first pipeline means configured to define, within said 2D graphical object, a region for displaying three-dimensional (3D) graphical objects;
a second pipeline means for rendering 3D graphical data received from said graphics application;
a means for displaying said 2D graphical object; and
a compositing means for interfacing, with said displaying means, said 2D graphical data and said 3D graphical data respectively rendered by said first and second pipeline means such that said 3D graphical data rendered by said second pipeline means is displayed within said region. (Emphasis added).

For at least the reasons set forth hereinabove in the arguments for allowance of claim 1, Applicants submit that the cited art fails to disclose at least the features of claim 15 highlighted hereinabove. Thus, the rejection of claim 15 under 35 U.S.C. §102 is improper and should be withdrawn.

Claims 16, 17, 33, and 34

Claims 16, 17, 33, and 34 presently stand rejected in the Office Action under 35 U.S.C. §102 as allegedly anticipated by *Molnar*. Applicants submit that the pending dependent claims 16, 17, 33, and 34 contain all features of their respective independent claim 15. Since claim 15 should be allowed, as argued hereinabove, pending dependent claims 16, 17, 33, and 34 should be allowed as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 70

Claim 70 has been newly added via the amendments set forth herein. Claim 70 presently reads as follows:

70. A graphical display method, comprising:
receiving a plurality of graphics commands from a graphics application;
determining whether each of said graphics commands includes two-dimensional (2D) or three-dimensional (3D) graphical data;
selecting, based on said determining, a first graphics pipeline to render each of said graphics commands having 2D graphical data and at least one other graphics pipeline to render each of said graphics commands having 3D graphical data;
rendering, based on said selecting, 2D graphical data from said graphics commands via said first graphics pipeline and 3D graphical data from said graphics commands via said at least one other graphics pipeline;
storing said rendered 2D graphical data in a first frame buffer and said rendered 3D graphical data in at least one other frame buffer;
compositing said stored 2D and 3D graphical data into a single data stream; and
displaying said composited data based on said data stream.

Applicants assert that the cited art fails to disclose or suggest each of the above features of claim 70. Thus, claim 70 is allowable.

Claims 71-73

Claims 71-73 have been newly added via the amendments set forth herein. Applicants submit that the pending dependent claims 71-73 contain all features of their respective independent claim 70. Since claim 70 should be allowed, as argued hereinabove, pending dependent claims 71-73 should be allowed as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 74

Claim 74 has been newly added via the amendments set forth herein. Claim 74 presently reads as follows:

74. A graphical display method, comprising:
rendering, via a first graphics pipeline, two-dimensional (2D) graphical data received from a graphics application thereby defining a 2D graphical object having a region for displaying three-dimensional (3D) graphical objects;
rendering, via a second graphics pipeline, 3D graphical data received from said graphics application;
displaying said rendered 2D and 3D graphical data; and
compositing said rendered 2D and 3D graphical data such that said rendered 3D graphical data is displayed, via said displaying, within said region.

Applicants assert that the cited art fails to disclose or suggest each of the above features of claim 74. Thus, claim 74 is allowable.

Claims 75-77

Claims 75-77 have been newly added via the amendments set forth herein. Applicants submit that the pending dependent claims 75-77 contain all features of their respective

independent claim 74. Since claim 74 should be allowed, as argued hereinabove, pending dependent claims 75-77 should be allowed as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 78

Claim 78 has been newly added via the amendments set forth herein. Claim 78 presently reads as follows:

78. A graphical display system, comprising:
a graphics application configured to transmit graphical data defining an image frame, said graphical data including two-dimensional (2D) graphical data and three-dimensional (3D) graphical data;
a first graphics pipeline allocated to a first region of said image frame and not a second region of said image frame, said first graphics pipeline configured to render a first portion of said 3D graphical data based on whether said first portion is within said first region;
a second graphics pipeline allocated to said second region of said image frame, said second graphics pipeline configured to render a second portion of said 3D graphical data based on whether said second portion is within said second region;
a third graphics pipeline configured to render at least a portion of said 2D graphical data, said rendered portion of said 2D graphical data within said first and second regions; and
a compositor configured to combine, into a single data stream, said graphical data rendered by said first, second, and third graphics pipelines.

Applicants assert that the cited art fails to disclose or suggest each of the above features of claim 78. Thus, claim 78 is allowable.

Claim 79

Claim 79 has been newly added via the amendments set forth herein. Applicants submit that the pending dependent claim 79 contains all features of its independent claim 78. Since claim 78 should be allowed, as argued hereinabove, pending dependent claim 79 should be allowed as a matter of law. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

CONCLUSION

Applicants respectfully request that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicants' response, the Examiner is encouraged to telephone Applicants' undersigned counsel.

Respectfully submitted ,

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